

ABSTRACT OF THE DISCLOSURE

A voltage controlled oscillating circuit operable to output a variable frequency, includes a variable capacitance element with the variable frequency varying with a variation in capacitance of the variable capacitance element. The variable capacitance element is provided by a bipolar transistor. The capacitance of the variable capacitance element is achieved by combining capacitance formed by a PN junction between an emitter layer and a base layer and capacitance formed by a PN junction between the base layer and a collector layer in a bipolar transistor, and is controlled by a voltage applied between the emitter layer and the collector layer of the bipolar transistor.